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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,855	08/21/2003	Chien-Sheng Yang	ADTP0091USA	1854

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NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)
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MERRIFIELD, VA 22116

EXAMINER	
CHAPMAN JR, JOHN E	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,855	YANG, CHIEN-SHENG	
	Examiner	Art Unit	
	John E Chapman	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-18,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-7,9 and 10* is/are allowed.

6)☒ Claim(s) *11-15,17,20 and 21* is/are rejected.

7)☒ Claim(s) *16 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 September 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The drawings were received on September 24, 2004. These drawings are not acceptable because it is not clear that element 52 in Fig. 3 is a TFT display.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 11, 12, 14, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corkum et al. in view of Gimzewski et al.

Corkum et al. discloses a capacitive acceleration sensor comprising an insulating substrate 12, a cantilever beam structure 14, and a conditioning circuit 12e positioned on the insulating substrate. The only difference between the claimed invention and the prior art consists in providing a thin film transistor (TFT) control circuit. Gimzewski et al. teaches that the amplifying circuit of a cantilever sensor can advantageously be fabricated using thin film transistors (TFTs) deposited on an insulating substrate comprising alumina (Al_2O_3). Note col. 2, lines 46-56. Corkum et al. discloses that alumina may be used for the substrate 12 (col. 4, line 27). Accordingly, it would have been obvious in view of Gimzewski et al. to provide a TFT amplifying circuit on the alumina substrate of Corkum et al. for the purpose of conditioning the electronic signal.

Regarding claim 12, Gimzewski et al. teaches forming an electrode by sputtering an aluminum layer on the substrate (col. 5, lines 2-5). It would have been obvious in view of

Gimzewski et al. to form the electrode 12c of Corkum et al. by sputtering aluminum on the substrate 12.

Regarding claim 15, Gimzewski et al. teaches depositing thin film transistors (TFTs) on an insulating substrate such as SiO_X (col. 2, line 53). Corkum et al. discloses that glass may be used for the substrate 12 (abstract, line 3). Accordingly, it would have been obvious in view of Gimzewski et al. to provide a TFT amplifying circuit on a glass substrate comprised of silica (SiO_2).

Regarding claim 21, Gimzewski et al. teaches manufacturing the device according to TFT display technology (col. 5, lines 63-65). Accordingly, it would have been obvious to include a TFT display region in order to display the sensed acceleration.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corkum in view of Gimzewski as applied to claim 11 above, and further in view of Pierre et al. or Cahill et al.

The only further difference between the claimed invention and the prior art consists in the selection of material for cantilever beam structure 14 of Corkum et al. Corkum et al. teaches that any suitable material may be used for the electrically conductive sensor elements (col. 4, lines 25-27), and Pierre teaches the suitability of polysilicon for a cantilever beam structure. Accordingly, merely to select polysilicon for the cantilever beam structure 14 of Corkum et al. would have been obvious to one having ordinary skill in the art.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corkum in view of Gimzewski as applied to claim 15 above, and further in view of Nakatani et al.

The only further difference between the claimed invention and the prior art consists in the selection of material for the insulating substrate 12 of Corkum et al. Nakatani et al. teaches selecting either quartz or glass for use as a substrate according to specific requirements in the temperature characteristics of the material of the sensor (col. 5, lines 45-53). Accordingly, it would have been obvious in view of Nakatani et al. to select quartz comprised of silica (SiO_2) for the insulating substrate 12 of Corkum et al. according to specific requirements in the temperature characteristics of the material of the sensor.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corkum in view of Gimzewski as applied to claim 11 above, and further in view of Tanaka et al.

The only further difference between the claimed invention and the prior art consists in using a flexible printed circuit to connect the control circuit to the plate capacitor. Tanaka et al. teaches that it is known in the art to use a flexible printed circuit 38 in Fig. 19 to improve the degree of freedom in the wiring. Accordingly, it would have been obvious to use a flexible printed circuit in the device of Corkum et al. in order to improve the degree of freedom in the wiring.

7. Claims 16 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 1-7, 9 and 10 are allowed.

9. Applicant's arguments filed September 24, 2004 have been fully considered but are moot in view of the new ground(s) of rejection.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John E Chapman
Primary Examiner
Art Unit 2856